KM 130/300 R LPG

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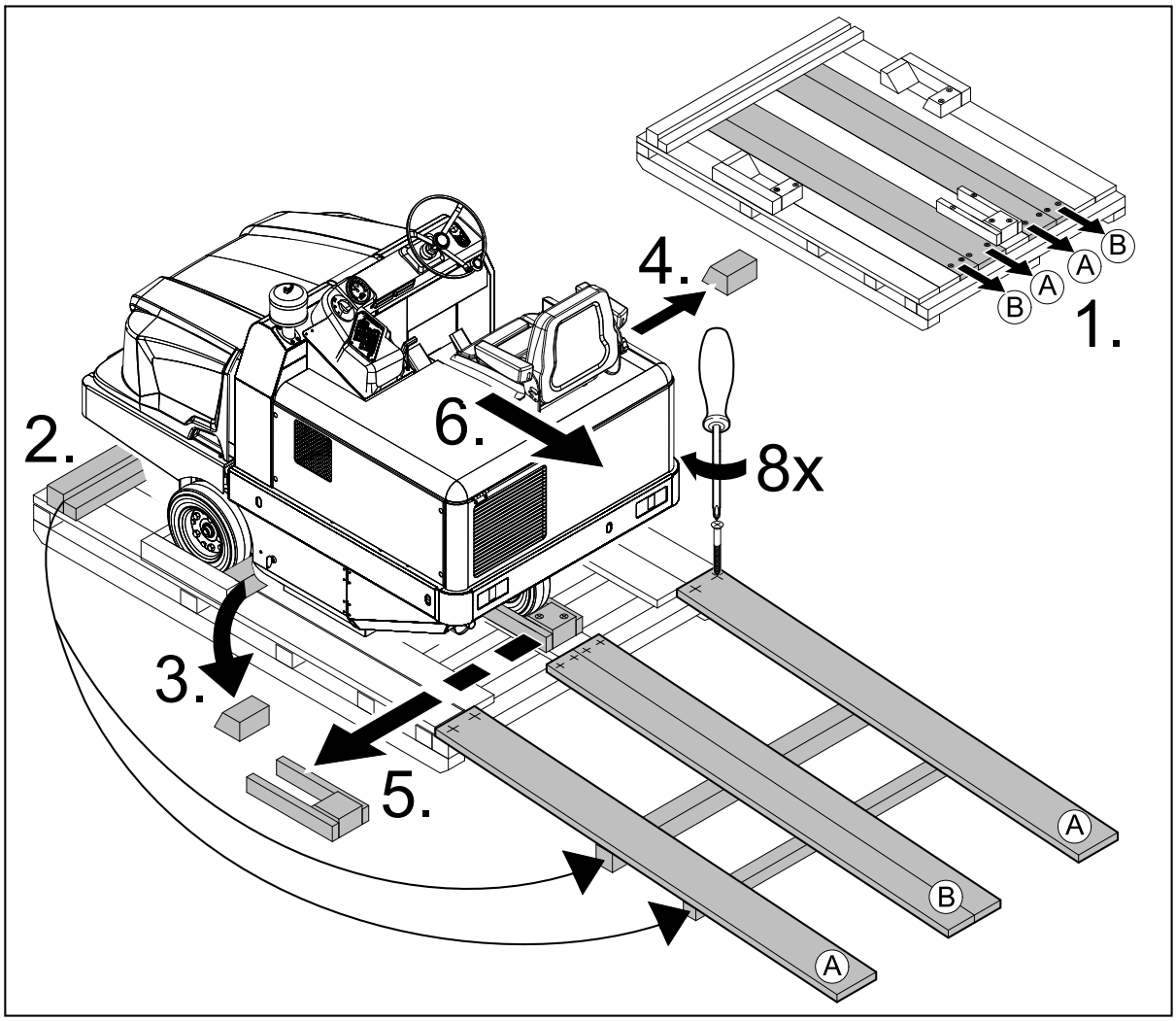
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Please read and comply with these original instructions prior to the initial operation of your appliance and store them for later use or subsequent owners.
Before first start-up it is definitely necessary to read the safety indications no. 5.956-250!

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Safety instructions

General notes

Your sales outlet should be informed about any transit damage noted when unpacking the product.

- Warning and information plates on the machine provide important directions for safe operation.
- In addition to the information contained in the operating instructions, all statutory safety and accident prevention regulations must be observed.

Unloading tips

⚠ ***Danger***

Risk of injury, risk of damage!
Observe the weight of the appliance when you load it!

Unladen weight (without attachment sets)	900 kg *
* If upgrade kits are installed, the weight is respectively higher.	

➔ **Do not use a forklift.**

➔ Use a suitable ramp or a crane to load the appliance!

➔ Observe when using a ramp:
Ground clearance 70 mm.

➔ If the machine is delivered on a pallet, you must create an unloading ramp using the boards provided.
You will find the instructions for this procedure on page 2 (inside of cover).
Important instruction: every board must be attached with at least 2 screws.

Drive mode

⚠ ***Danger***

Risk of injury, risk of damage!

⚠ ***Danger***

Risk of injury!
Danger of tipping if gradient is too high.
– *The gradient in the direction of travel should not exceed 18%.*
Danger of tipping when driving round bends at high speed.
– *Drive slowly when cornering.*
Danger of tipping on unstable ground.
– *Only use the machine on sound surfaces.*
Danger of tipping with excessive sideways tilt.
– *The gradient perpendicular to the direction of travel should not exceed 10%.*
– It is important to follow all safety instructions, rules and regulations applicable for driving motor vehicles.
– The operator must use the appliance properly. He must consider the local conditions and must pay attention to third parties, in particular children, when working with the appliance.
– The appliance may only be used by persons who have been instructed in handling the appliance or have proven qualification and expertise in operating the appliance or have been explicitly assigned the task of handling the appliance.
– The appliance must not be operated by children, young persons or persons who have not been instructed accordingly.
– It is strictly prohibited to take co-passengers.
– Ride-on appliances may only be started after the operator has occupied the driver's seat.

➔ Please remove the ignition key, when not in use, to avoid unauthorised use of the appliance.

➔ Never leave the machine unattended so long as the engine is running. The operator may leave the appliance only when the engine has come to a standstill, the appliance has been protected against accidental movement, if necessary, by applying the immobilization brake and the ignition key has been removed.

Appliances with combustion engine

⚠ ***Danger***

Risk of injury!
– *Do not close the exhaust.*
– *Do not bend over the exhaust or touch it (risk of burns).*
– *Do not touch the drive motor (risk of burns).*
– *Exhaust gases are poisonous and hazardous to health, do not inhale them.*
– *The engine requires approx. 3-4 seconds to come to a standstill once it has been switched off. During this time, stay well clear of the working area.*

Machines with driver cabin

– In emergencies, destroy the windows with a hammer.

Note

The emergency hammer is located in the foot area, underneath the driver seat.

Accessories and Spare Parts

– Only use accessories and spare parts which have been approved by the manufacturer. The exclusive use of original accessories and original spare parts ensures that the appliance can be operated safely and troublefree.
– At the end of the operating instructions you will find a selected list of spare parts that are often required.
– For additional information about spare parts, please go to the Service section at www.kaercher.com.

Safety regulations for LPG vehicles

Hauptverband der gewerblichen Berufsgenossenschaften e.V. (HVBG / Germany). Liquified gases (propellants) are butane and propane or a mixture of butane/ propane. They are available in special cylinders. The operating pressure of these gases depends on the outside temperature.

⚠ ***Danger***

Risk of explosion! Do not handle liquified gas like petrol. Petrol evaporates slowly, liquified gas immediately turns into gas. The risk of gas spreading in the room and getting ignited is thus higher in case of liquefied gas than in petrol.

⚠ ***Danger***

Risk of injury! Use only liquefied gas cylinders with propellant filled according to DIN 51622 of A or B quality, depending on the surrounding temperature.

Caution

Use of cooking gas is strictly prohibited. For the gas engine, use only liquid gas mixtures of propane/ butane or their mixtures where the mixing ratio lies between 90/10 to 30/70. On account of better cold start behaviour even at low outside sub-zero temperatures (below 0° C / 32 °F) always prefer a mixture with a higher propane share because evaporation takes place even at low temperatures.

Liabilities of the factory management and the employee

– All persons handling liquid gases are liable to acquaint themselves with the special properties of the liquefied gases for hazard-free handling of operations. The current documentation is always to be kept with the sweeper.

Maintenance by expert

- Propellant-operated units are to be checked at regular intervals, at least once a year, by an expert against leaks (according to BGG 936) and ensure that the unit is functioning properly.
- The inspection must be certified and documented. The inspection guidelines are § 33 and § 37 UVV (occupation accident prevention regulations) "Use of liquid gas" (BGV D34).
- General applicable regulations are the guidelines for inspecting vehicles whose engines are driven by liquefied gases of the Federal Transportation Minister.

Commissioning/Operations

- Gas must always be drawn only from one cylinder. Drawing gas from multiple cylinders simultaneously can cause liquid gas from one cylinder flowing into the other. This causes the over-filled cylinder to be subjected to an unpermitted excess pressure when the cylinder valve is closed later (refer B.1 of these guidelines).
- Ensure the correct positioning of the cylinder with the "bottom" marking while connecting a full cylinder (the connection screw points vertically downward).

Replace cylinders carefully. While connecting and disconnecting the gas cylinders, the gas outlets of the cylinder valve must be closed properly by tightening the locking nuts with a spanner.

- Discontinue the use of leaky gas cylinders. Such cylinders are to be emptied by slowly letting out the gas in open spaces by conforming to all safety regulations and are to be indicated as leaky. Also inform the issuing company or its representative (the filling-station attendant) in writing about the damage to the cylinder while delivering or receiving the cylinders.
- Before connecting the gas cylinder, check that its connection neck is in a proper state.
- After connecting the cylinder, regularly check that it is not leaky by using a foaming agent.
- Open the valves slowly. Do not use hammers to open and close the cylinders.
- Fight liquid-gas fires only from a safe distance and with protection.

  - use only dry powder carbon dioxide extinguishers or carbon dioxide gas extinguishers.

  - use abundant water to cool the gas tank.
- The entire LPG unit must be continuously checked to ensure that there are no leaks and the unit is functioning properly. Using the vehicle with a leaky gas unit is strictly prohibited.
- First close the cylinder valve before loosening the pipe or tube connection. Unscrew and loosen the connection nut of the gas cylinder slowly because otherwise the gas under pressure in the tube will flow out instantly.
- If the gas is refilled from a larger tank, then ask the sales agent of the LPG about the important regulations to be followed.

⚠ ***Danger***

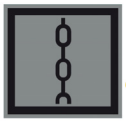
Risk of injury!

- *LPG in a liquid state can cause frost bites on bare skin.*
- *After disconnecting the cylinder, tighten the closing nut firmly on the connecting threading of the cylinder.*
- *Use soap water or some such foaming agent to check whether the cylinder is leaking. The use of open flames to illuminate the LPG unit is strictly prohibited.*
- *Follow the manufacturer's installation specifications while changing individual parts of the LPG unit. Close all cylinder and locking valves while doing so.*
- *Regularly check the status of the electrical unit of the LPG vehicles . Sparks can cause explosions if the gas-carrying parts of the unit are leaky.*
- *If a LPG-driven vehicle has been idling for a long time, then first ventilate the setting room before commissioning the vehicle or its electrical unit.*
- *Immediately inform the trade association and the concerned trade supervisory authority about accidents with gas cylinders or LPG units. Store the damaged parts carefully until all investigations have been completed.*

In the installation and storage rooms as well as the workshops

- Propellants or LPG cylinders must always be stored according to the regulations of TRF 1996 (Technical Regulations for Liquid Gases, refer DA to BGV D34, Appendix 4).
- Always store the gas cylinders in a vertical position. Use of open flames and smoking at the installation site of the cylinders and during repairs is strictly prohibited. Protect the stored cylinders against unauthorised access. Close all empty cylinders properly.
- Close the cylinder and main locking valves immediately when you switch off the vehicle.
- Follow the regulations for garages and the construction guidelines of the respective State about the location and structure of the parking areas for LPG-driven vehicles.
- Gas cylinders are to be stored in separate rooms away from the parking areas (refer DA to BGV D34, Appendix 2).
- The electrical hand-held lamps used in the rooms are to be equipped with closed, sealed case and a strong protection cover.
- Close all cylinder and main valves before working in repair workshops and protect the gas cylinders against effect of external heat.
- A responsible person must check that all valves, especially the cylinder valves, are closed during operational breaks and before closing the factory. Do not carry out any jobs involving fire - such as cutting and welding jobs - in the vicinity of the gas cylinders. Do not store gas cylinders, not even empty ones, in the workshops.
- The parking and storage rooms and the repair workshops must be ventilated properly. Please note that liquefied gases are heavier than atmospheric air. They get collected on the floor, in recesses and other holes in the floors and form a gas-air mixture that can lead to explosions.

Symbols on the machine

	Risk of burns on account of hot surfaces! Allow the exhaust to cool down sufficiently before starting work on the machine.
	Always use appropriate gloves while working on the device.
	Risk of getting squeezed on account of getting jammed between vehicle parts.
	Risk of injury on account of moving parts. Do not reach in.
	Risk of fire. Do not vacuum up any burning or glowing objects.
	*Chain pick-up / crane point* *Lashing point*
	Tyre pressure (max.)
	Intake points for the jack
	Brush roller adjustment
	Maximum decline of ground when driving with the waste container raised.
	The gradient in the direction of travel should not exceed 18%.
	Observe the installation position of the gas cylinder. The connection / ring opening must point downwards.

Symbols in the operating instructions

⚠ Danger

Immediate danger that can cause severe injury or even death.

⚠ Warning

Possible hazardous situation that could lead to severe injury or even death.

Caution

Possible hazardous situation that could lead to mild injury to persons or damage to property.

Function

The sweeper operates using the sweep-shovel principle.

- The rotating roller brush moves the dirt directly into the waste container.
- The side brush cleans the corners and edges of the surface and moves dirt and debris into the path of the roller brush.
- The fine dust is sucked in via the dust filter through the suction blower.

Proper use

Use this sweeper only as directed in these operating instructions.

➔ The machine with working equipment must be checked to ensure that it is in proper working order and is operating safely prior to use. Otherwise, the appliance must not be used.

- This sweeper has been designed to sweep dirt and debris from outdoor surfaces.
- The appliance should not be used in closed rooms.
- Ride-on machines that are not equipped with the proper equipment (option ex factory) are not approved for public transport.
- The appliance can be used on public roads only after an individual acceptance by an official regulatory body.
- The machine is not suitable for vacuuming dust which endangers health.
- The machine may not be modified.
- Never vacuum up explosive liquids, combustible gases or undiluted acids and solvents. This includes petrol, paint thinner or heating oil which can generate explosive fumes or mixtures upon contact with the suction air. Acetone, undiluted acids and solvents must also be avoided as they can harm the materials on the machine.
- Do not sweep/vacuum up any burning or glowing objects.
- The machine is only suitable for use on the types of surfaces specified in the operating instructions.
- The machine may only be operated on the surfaces approved by the company or its authorised representatives.
- The machine may not be used or stored in hazardous areas. It is not allowed to use the appliance in hazardous locations.
- The following applies in general: Keep highly-flammable substances away from the appliance (danger of explosion/fire).

Suitable surfaces

⚠ Danger

Risk of injury! Verify the stability of the ground prior to driving on it.

- Asphalt
- Industrial floor
- Screed
- Concrete
- Paving stones

Caution

Risk of damage! Do not sweep up straps, strings or wires as these may wrap around the brush roller.

Environmental protection

	The packaging material can be recycled. Please do not throw the packaging material into household waste; please send it for recycling.
	Old appliances contain valuable materials that can be recycled; these should be sent for recycling. Batteries, oil, and similar substances must not enter the environment. Please dispose of your old appliances using appropriate collection systems.

Notes about the ingredients (REACH)
You will find current information about the ingredients at:
www.kaercher.com/REACH

Operating and Functional Elements

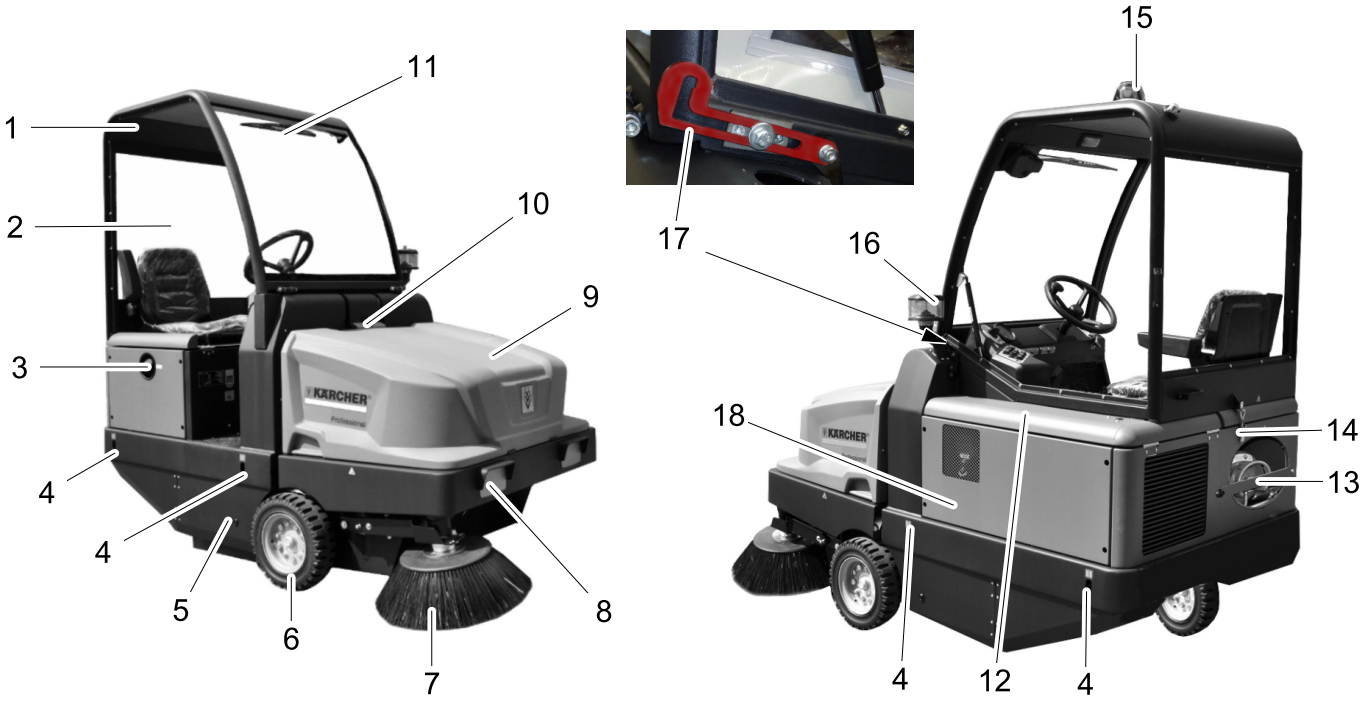
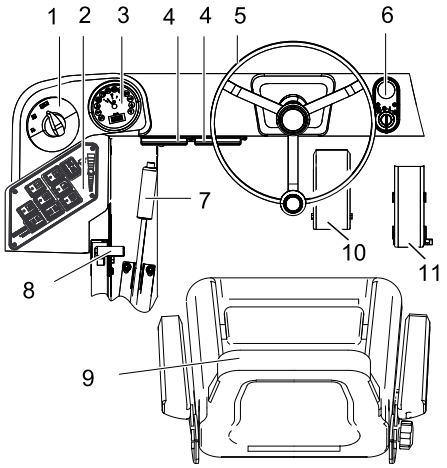


Illustration of sweeper

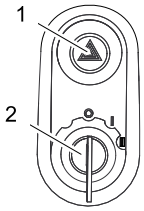
1 Driver cabin (optional)
2 Cabin door (option)
3 Tank lid
4 Lashing point (4x)
5 Roller brush access
6 Front wheel
7 Side brushes
8 Lighting system (optional)
9 Waste container
10 Lock of appliance hood
11 Windshield wiper (option)
12 Engine cover
13 Gas cylinder
14 Cab lock
15 Beacon lamp
16 Centrifugal separator
17 Lock lever of cab
18 Brush roller adjustment (not pictured)

Operating field



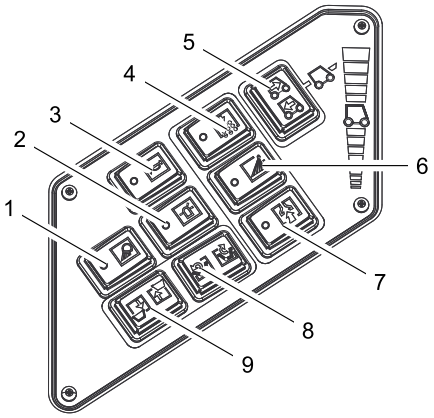
1 Programme switch
2 Function keys
3 Multifunction display
4 Fuse box - work station
5 Steering wheel
6 Ignition lock
7 Parking brake
8 Motor speed adjustment
9 Seat (with seat contact switch)
10 Brake pedal
11 Drive pedal

Ignition lock



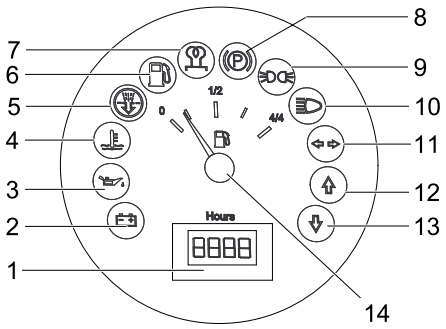
1 Warning blinking switch (option)
2 Ignition key
– Position 0: Switch off engine
– Position 1: Ignition on
– Position 2: Start the engine

Function keys



1 Work lights on/off (option)
2 Beacon lamp on/off
3 Horn
4 Filter dedusting
5 Blinker switch
6 Irrigation of side brush (optional)
7 Blower
8 Open/close container lid
9 Raise/lower waste container

Multifunction display



1 Operating hour counter
2 Charge warning lamp
3 Oil pressure warning lamp
4 Cooling water temperature warning lamp
5 Motor suction air
6 Warning lamp fuel reserve
- blinks for reserve
- illuminates when gas bottle is empty
7 Indicator lamp (not connected)
8 Indicator lamp (not connected)
9 Indicator parking light (option)
10 Indicator light low beam (option)
11 Indicator light blinker (option)
12 Indicator lamp - forward driving direction
13 Indicator lamp - reverse driving direction
14 Tank indicator (not connected)

Before Startup

Fold up the cab

In order to perform different tasks, you may have to fold up the cab (optional) first.
Note: The cab must only be tilted while the vehicle is on even ground (± 5 °).

➔ Open the cab lock.
➔ Tilt the cab up until the lock lever clicks into place.

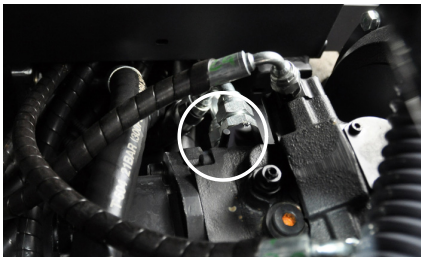
➔ Unlock the lock lever prior to lowering the cab.

Lock/ release parking brake

➔ Loosen parking brake; press brake pedal at the same time.
➔ Activate the parking brake; press brake pedal at the same time.

Moving sweeper without engaging self-propulsion

➔ Open engine cover.
➔ Turn the freewheel lever of the hydraulic pump by 90 ° down on the side.



Caution

Do not move the machine for long distances without engaging self-propulsion; a speed of 10 km/h should not be exceeded.

➔ After moving, fold the freewheel lever up again.

Moving sweeper by engaging self-propulsion

➔ After moving, fold the freewheel lever up again.

Start up

General notes

➔ Read the operating instructions of the engine manufacturer before start-up and follow the safety instructions carefully.
➔ Park the sweeper on an even surface.
➔ Remove ignition key.
➔ Lock parking brake.

Install/replace gas bottle

⚠ ***Warning***

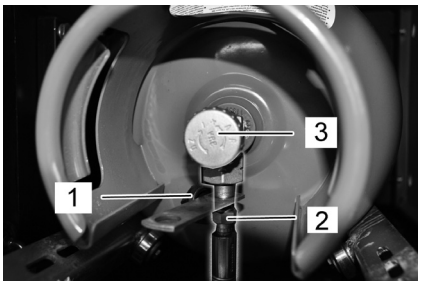
Only use replacement cylinders with 11 kg contents of tested models.

⚠ ***Danger***

Risk of injury!

– *Follow safety regulations for LPG vehicles.*
– *Formation of crusts and yellow-frothing deposits on the gas cylinder indicate leakiness.*
– *Cylinders must be changed only by instructed persons.*
– *Cylinders containing propellant gases must not be changed in garages and underground areas.*
– *Do not smoke and use uncovered light while changing the cylinder.*
– *While changing cylinders, first close the locking valve of the LPG cylinder firmly and immediately put the protective cap on the empty cylinder.*

➔ Loosen the screw on the safety bar and swivel the bar upwards.



1 Protective cover
2 Gas hose with union joint
3 Gas withdrawal valve

Replacing the empty gas bottle

If the warning indicator for reserve fuel shows an empty gas bottle continuously during operation, proceed as follows:

➔ Close gas drawing valve by turning it in clock-wise direction.
➔ Stop the the machine and continue to run it at idle speed until the motor shuts off.
Note: This will ensure that all gas lines are empty and that there can be no icing which would hinder starting the motor.
➔ Unscrew the gas hose (30-mm spanner).
➔ Screw the protective cap onto the connecting valve of the empty gas cylinder.
➔ Open the cliplock.

Installing a new gas bottle

➔ Replace the gas cylinder.
Observe the installation position of the gas cylinder. The connection / ring opening must point downwards.

➔ Unscrew the protective cap from the connecting valve of the gas cylinder.

➔ Close the bracket closure.

➔ Screw the gas hose to the connecting valve of the gas cylinder (30-mm spanner).

➔ Close the safety bar, and secure it with a bolt.

Note

Connection has a left threading.

⚠ ***Warning***

Open the gas drawing valve (3) only after starting the appliance (refer chapter Starting the appliance).

Inspection and maintenance work

➔ Check engine oil level.

➔ Check the water cooler.

➔ Check roller brush.

➔ Check tyre pressure.

➔ Adjust driver's seat.

➔ Shake off dust filter.

Note: For description, see section on Care and maintenance.

Operation

⚠ ***Danger***

Long hours of using the appliance can cause circulation problems on account of vibrations.

It is not possible to specify a generally valid operation time, since this depends on several factors:

– Proneness to blood circulation deficiencies (frequently cold extremities, tingling, numbness).
– Low ambient temperature. Wear warm clothes to protect the affected body parts.
– A firm grip impedes blood circulation.
– Continuous operation is worse than an operation interrupted by pauses.

In case of regular, long-term operation of the device and in case of repeated occurrence of the symptoms (e.g. tingling, numbness in certain body parts) please consult a physician.

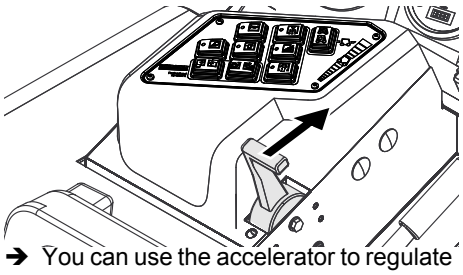
Adjusting driver's seat

➔ Pull seat adjustment lever outwards.

➔ Slide seat, release lever and lock in place.

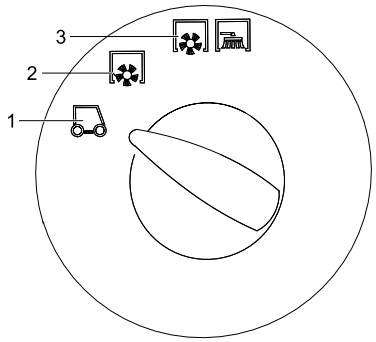
➔ Check that the seat is properly locked in position by attempting to move it backwards and forwards.

Adjust engine speed



➔ You can use the accelerator to regulate the engine speed.

Programme selection

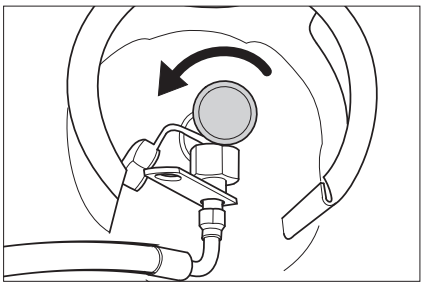


1 Transport drive
2 Sweeping with sweep roller
3 Sweeping using roller brush and side brushes

Starting the machine

Note: The machine is equipped with a seat contact switch If the driver's seat is vacated, the machine is switched off.

Open the gas supply



➔ Open the gas drawing valve by turning it in anti-clockwise direction.

➔ Sit on the driver's seat.

➔ Bring the direction selector switch into the middle position.

➔ Lock parking brake.

➔ Engine speed adjustment - push forward by 1/3.

Start the engine

➔ Insert the ignition key into the ignition lock.

➔ Turn the ignition key to position "II".

➔ If the machine starts, release the ignition key.

Note: Never operate the starter motor for longer than 10 seconds. Wait at least 10 seconds before operating the starter motor again.

Drive the machine

➔ Set programme selection switch to "Transport drive". ⁻🚗.

➔ Move the gas lever all the way to the front (high speed).
Note: The speed of the side brush and the brush roller depends on the motor speed.

➔ Press brake pedal and keep it depressed.

➔ Release parking brake.

Drive forward

➔ Set the travel direction switch to "forward".

➔ Press accelerator pedal down slowly.

Reverse drive

⚠ ***Danger***

Risk of injury! While reversing, ensure that there is nobody in the way, ask them to move if somebody is around.

Caution

Risk of damage! Only use the direction switch when the machine is standing still.

➔ Set the travel direction switch to "backwards".

➔ Press accelerator pedal down slowly.

Driving method

– The accelerator pedal can be used to vary the driving speed infinitely.
– Avoid pressing the pedal suddenly as this may damage the hydraulic system.
– In the event of power loss on inclined surfaces, slightly reduce the pressure on the accelerator pedal.

Brakes

➔ Release the accelerator pedal, the machine brakes automatically and stops.

Note: The braking effect can be supported by pressing the brake pedal.

Driving over obstacles

Driving over fixed obstacles which are 70 mm high or less:

➔ Drive forwards slowly and carefully.

Driving over fixed obstacles which are more than 70 mm high:

➔ Only drive over these obstacles using a suitable ramp.

Sweeping mode

Caution

Do not sweep up packing strips, wire or similar objects as this may damage the sweeping mechanism.

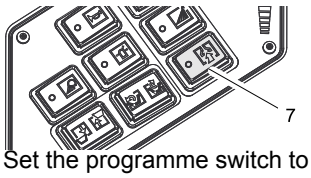
Note: To achieve an optimum cleaning result, the driving speed should be adjusted to take specific situations into account.

Note: During operation, the waste container should be emptied at regular intervals.

Note: During operation, the dust filter should be shaken off and cleaned at regular intervals.

Sweeping dry floors

➔ Switch on the blower.



➔ Set the programme switch to sweep with sweeping brush when cleaning surfaces.

➔ Set the programme switch to sweep with sweeping brush and side brush when cleaning edges.

Sweeping damp or wet floors

➔ Switch off the blower.

➔ Set the programme switch to sweep with sweeping brush when cleaning surfaces.

➔ Set the programme switch to sweep with sweeping brush and side brush when cleaning edges.

Emptying waste container

⚠ ***Danger***

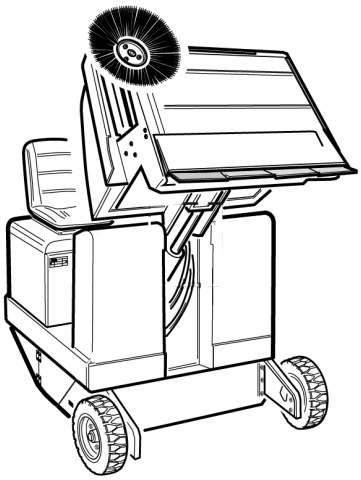
Risk of injury! When emptying the waste container, care should be taken to ensure that no persons or animals are within its swivelling range.

⚠ ***Danger***

Danger of crushing. Never reach into the rod assembly for the drainage mechanism. Stay away from the area under the raised container.

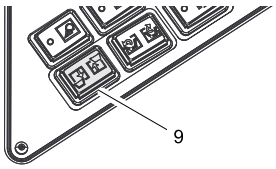
⚠ ***Danger***

Danger of tipping. Place the machine on an even surface during emptying.



➔ Set programme selection switch to "Transport drive". ⁻🚚.

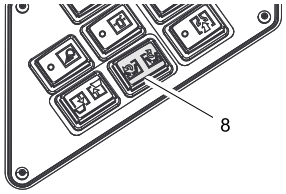
➔ Raise waste container.



➔ Slowly drive towards the collection container.

➔ Lock parking brake.

➔ Open the container door: Press the left side of the switch and empty the waste container.



➔ Close the container door: Press the right side of the switch (approximately 2 seconds), until the unit is tilted to the end position.

➔ Release parking brake.

➔ Drive away the collection container slowly.

➔ Lower the waste container up to the end-position.

Turn off the appliance

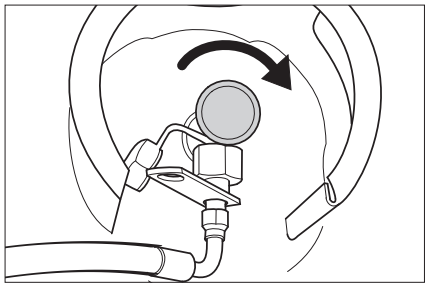
➔ Push the motor speed adjustment all the way to the rear.

➔ Press brake pedal and keep it depressed.

➔ Lock parking brake.

➔ Turn ignition key to "0" and remove it.

Close the gas inlet



➔ Close gas drawing valve by turning it in clock-wise direction.

Transport

⚠ ***Danger***

Risk of injury and damage! Observe the weight of the appliance when you transport it.

➔ Turn ignition key to "0" and remove it.

➔ Lock parking brake.

➔ Secure the appliance at the lashing points (4x) using tension belts, ropes or chains.

➔ Secure the wheels of the machine with wheel chocks.

➔ When transporting in vehicles, secure the appliance according to the guidelines from slipping and tipping over.

Storage

⚠ ***Danger***

Risk of injury and damage! Note the weight of the appliance in case of storage.

Shutdown

If the sweeper is going to be out of service for a longer time period, observe the following points:

➔ Park the sweeper on an even surface.

➔ Raise the roller brush and the side-brushes to prevent the bristles from being damaged.

➔ Turn ignition key to "0" and remove it.

➔ Lock parking brake.

➔ Lock the sweeper to ensure that it does not roll off.

➔ Change engine oil.

➔ Drain off the cooling water if frost is expected and check whether there is adequate anti-frosting agent.

➔ Clean the inside and outside of the sweeper.

➔ Charge the battery and clamp it off.

➔ Close the gas inlet.

➔ Unscrew the gas hose with union nut (use 30 mm spanner).

➔ Lock the gas bottle with the safety cap and store upright in a suitable storage area (also see Chapter "Safety instructions).

Maintenance and care

General notes

– Maintenance work may only be carried out by approved customer service outlets or experts in this field who are familiar with the respective safety regulations.

– Mobile appliances used for commercial purposes are subject to safety inspections according to VDE 0701.

➔ Park the sweeper on an even surface.

➔ Turn ignition key to "0" and remove it.

➔ Lock parking brake.

Cleaning

Caution

Risk of damage! Do not clean the appliance with a water hose or high-pressure water jet (danger of short circuits or other damage).

Cleaning the inside of the machine

⚠ ***Danger***

Risk of injury! Wear dust mask and protective goggles.

➔ Clean machine with a cloth.

➔ Blow through machine with compressed air.

External cleaning of the appliance

➔ Clean the machine with a damp cloth which has been soaked in mild detergent.

Note: Do not use aggressive cleaning agents.

Maintenance intervals

Observe the inspection checklist 5.950-647.0!

Note: The elapsed-time counter shows the timing of the maintenance intervals.

Maintenance by the customer

Note: Where maintenance is carried out by the customer, all service and maintenance work must be undertaken by a qualified specialist. If required, a specialised Kärcher dealer may be contacted at any time.

Daily maintenance:

- ➔ Check engine oil level.
- ➔ Check cooler water level.
- ➔ Check tyre pressure.
- ➔ Check the sweeping roller and the side brush for wear and wrapped belts.
- ➔ Check the wheels for tied up belts.
- ➔ Check the centrifugal separator and the air filter, clean if required.
- ➔ Check function of all operator control elements.
- ➔ Check appliance for damages.

Weekly maintenance:

- ➔ Clean the water cooler.
- ➔ Clean the hydraulic oil cooler.
- ➔ Check hydraulic unit.
- ➔ Check the hydraulic oil level.
- ➔ Check brake fluid status.
- ➔ Check the pad for wear, replace if required.
- ➔ Check the container lid and lubricate it.

Maintenance following wear:

- ➔ Replace sealing strips.
- ➔ Replace roller brush.
- ➔ Replace side brush.

Note: For description, see section on Maintenance work.

Maintenance by Customer Service

Note: In order to safeguard warranty claims, all service and maintenance work during the warranty period must be carried out by the authorised Kärcher Customer Service in accordance with the maintenance booklet.

Maintenance to be carried out after 50 operating hours:

- ➔ Have the first inspection done according to the service manual.

Maintenance to be carried out after 250 operating hours:

- ➔ Have the inspection done according to the service manual.

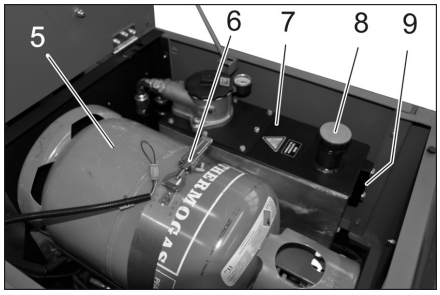
Maintenance Works

Preparation:

- ➔ Park the sweeper on an even surface.
- ➔ Turn ignition key to "0" and remove it.
- ➔ Lock parking brake.
- ➔ Close the gas inlet.

Overview

1 Cooling water container
2 Air filter
3 3-Cylinder 4-stroke gas engine
4 Water cooler

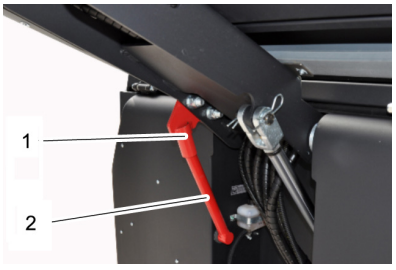


5 Gas cylinder
6 Bracket closure
7 Hydraulic oil tank
8 Hydraulic oil fill neck
9 Looking glass

General notes on safety

⚠ ***Danger***

Risk of injury! Always apply the safety bar when the waste container is raised.



1 Holder of safety rod
2 Safety rod

➔ Fold the safety rod for the high emptying up and insert it into the holder (secured).

	Please do not release engine oil, fuel oil, diesel and petrol into the environment. Protect the ground and dispose of used oil in an environmentally-clean manner.

Safety notes regarding the batteries

Please observe the following warning notes when handling batteries:

	Observe the directions on the battery, in the instructions for use and in the vehicle operating instructions!
	Wear an eye shield!
	Keep away children from acid and batteries!
	Risk of explosion!
	Fire, sparks, open light, and smoking not allowed!
	Danger of causticization!
	First aid!
	Warning note!
	Disposal!
Pb	*Do not throw the battery in the dustbin!*

⚠ ***Danger***

Risk of explosion! Do not put tools or similar on the battery, i.e. on the terminal poles and cell connectors.

⚠ ***Danger***

Risk of injury! Ensure that wounds never come into contact with lead. Always clean your hands after having worked with batteries.

⚠ ***Danger***

Risk of fire and explosion!

- *Smoking and naked flames are strictly prohibited.*
- *Rooms where batteries are charged must have good ventilation because highly explosive gas is emitted during charging.*

⚠ ***Danger***

Danger of causticization!

- *Rinse thoroughly with lots of clear water if acid gets into the eye or comes in contact with the skin.*
- *Then consult a doctor immediately.*
- *Wash off the acid If it comes in contact with the clothes.*

Installing and connecting the battery

➔ Insert battery in battery mount.
➔ Screw on mounts on battery base.
➔ Connect pole terminal (red cable) to positive pole (+).
➔ Connect pole terminal to negative pole (-).

Note: Check that the battery pole and pole terminals are adequately protected with pole grease.

Check fluid level in the battery and adjust if required

Caution

Regularly check the fluid level in acid-filled batteries.

– The acid in a fully charged battery has a specific weight of 1.28 kg/l at a temperature of 20 °C.
– The acid in a partially discharged battery has a specific weight between 1.00 and 1.28 kg/l.
– The specific weight of the acid must be uniform in all cells.

➔ Unscrew all cell caps.
➔ Take a sample from each cell using the acid tester.
➔ Put the acid sample back into the same cell.
➔ Where fluid level is too low, top up cells to the mark provided with distilled water.
➔ Charge battery.
➔ Screw in cell caps.

Charging battery

⚠ ***Danger***

Risk of injury! Comply with safety regulations on the handling of batteries. Observe the directions provided by the manufacturer of the charger.

⚠ ***Danger***

Charge the battery only with an appropriate charger.

➔ Unscrew all cell caps.
➔ Connect positive terminal cable from the charger to the positive pole connection on the battery.
➔ Connect negative terminal cable from the charger to the negative pole connection on the battery.
➔ Plug in mains connector and switch on charger.
➔ Charge battery using lowest possible level of charging current.

Note: When the battery is charged, first remove the charger from the mains and then disconnect it from the battery.

Remove the battery

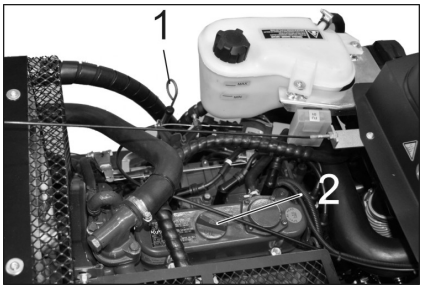
➔ Disconnect pole terminal to negative pole (-).
➔ Disconnect pole terminal to positive pole (-).
➔ Loosen the mounts on battery base.
➔ Remove the battery from the battery holder.
➔ Dispose of the used battery according to the local provisions.

Check engine oil level and top up, if required

⚠ ***Danger***

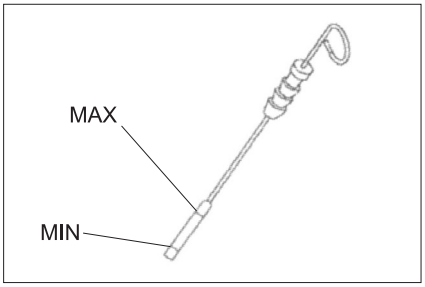
Risk of burns!

➔ Allow engine to cool down.
➔ Wait for at least 5 minutes after switching off the engine before checking the engine oil fill level.



1 Oil dipstick
2 Screw cap, oil fill opening

➔ Pull out oil dipstick.
➔ Wipe off oil dipstick and insert.
➔ Pull out oil dipstick.
➔ Read the value of the oil level.
➔ Insert the oil dip again.



– The oil level must lie between “MIN“ and “MAX“ marking.
– Add motor oil if the oil level is below the "MIN" marking.
– Do not fill oil above the "MAX" marking.

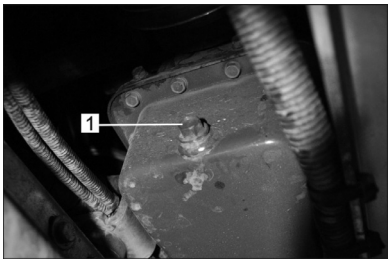
➔ Loosen the closing cap of the oil filling opening.
➔ Fill in motor oil.
Oil grade: see Technical Data
➔ Close oil filler opening.
➔ Wait at least 5 minutes.
➔ Check engine oil level.

Change the motor oil and the oil filter

Caution

Risk of burns due to hot oil!

➔ Ready a catch bin for approx. 6 litre oil.
➔ Allow engine to cool down.



1 Oil drain screw

➔ Unscrew oil drain plug.
➔ Loosen the screw cap of the oil filling opening.
➔ Drain off oil.

1 Oil filter motor

➔ Unscrew the oil filter.
➔ Clean the intake and sealing areas.
➔ Coat the washer of the new oil filter with oil before fitting it.
➔ Fit in the new oil filter and tighten it by hand.
➔ Screw in the oil drain screw along with the new washer.

Note: Tighten the oil drain screw using a torque wrench to 25 Nm.

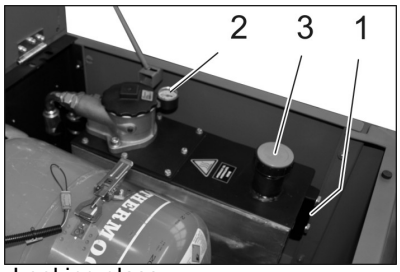
➔ Fill in motor oil.
Oil grade: see Technical Data
➔ Close oil filler opening.
➔ Let the motor run for approx. 10 seconds.
➔ Check engine oil level.

Check hydraulic oil level and refill hydraulic oil

Note

The waste container must not be raised.

➔ Open engine cover.



1 Looking glass
2 Manometer
3 Screw cap, oil fill opening

➔ Check hydraulic oil level in the looking glass.
– The oil level must lie between “MIN“ and “MAX“ marking.
– Add hydraulic oil if the oil level is below the "MIN" marking.
➔ Loosen the closing cap of the oil filling opening.
➔ Clean the filling area.
➔ Refill hydraulic oil.
Oil grade: see Technical Data
➔ Replace and tighten the closing cap of the oil filling opening.

Note

If the pressure gauge shows an increased hydraulic oil pressure, the hydraulic oil filter must be replaced by Kärcher customer service.

Check hydraulic unit

➔ Lock parking brake.
➔ Start the motor.

Only Kärcher Customer Service is authorised to carry out maintenance tasks on the hydraulic unit.

➔ Check all hydraulic hoses and connections and ensure that they are leak-proof.

Check water cooler and maintain it

⚠ ***Danger***

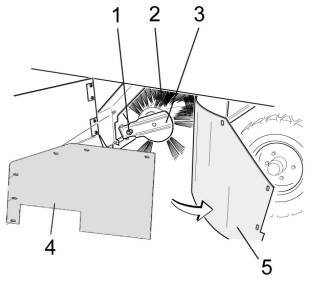
Danger of scalding by boiling water! Let the cooler cool down for at least 20 minutes.

➔ Check the cooling water level on the balance reservoir (water level between MIN and MAX).
➔ Clean cooler lamella.
➔ Check cooler hoses and connections and ensure that they are leak-proof.
➔ Clean the fan.

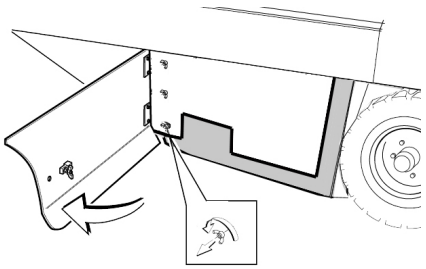
Checking roller brush

➔ Start the motor.
➔ Raise the waste container up to the end-position.
➔ Switch off engine.
➔ Lock parking brake.
➔ Use the safety bar for emptying from a height.
➔ Remove belts or cords from roller brush.
➔ Remove the safety bar.
➔ Start the motor.
➔ Lower the waste container up to the end-position.
➔ Switch off engine.

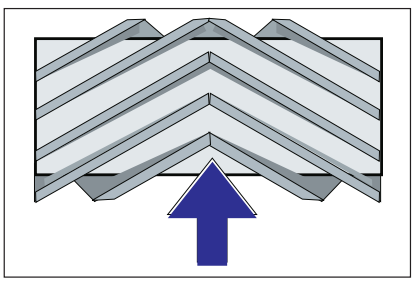
Replacing roller brush



1 Fastening screws of the roller brush intake
2 Roller brush
3 Roller brush intake
4 Holding plate for side seal
5 Side seal



➔ Open the side covers using a key.
➔ Unscrew the wingnuts from the holding plate side seals and remove the holding plate.
➔ Flip the side seal out.
➔ Uncscrew the retaining screw of the roller brush intake, and swing the intake to the outside.
➔ Pull out roller brush.



Installation position of roller brush in direction of travel (top view)

Note: When installing the new roller brush, ensure correct positioning of the bristle assembly.

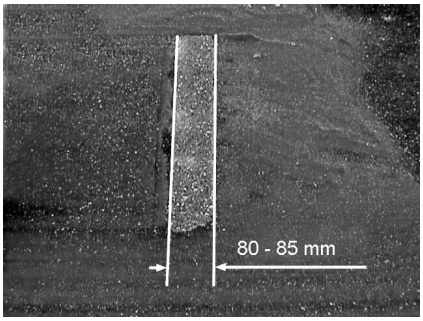
➔ Install new roller brush. The nuts of the roller brush must be inserted on the notches of the opposite crank.

Note: Once the new roller brush has been installed, the sweeping track must readjusted.

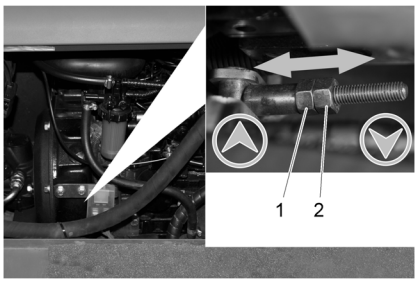
Check and adjust roller brush sweeping track

Note: The sweeping track is factory-set to 80 mm; it is steplessly adjustable if the brush roller wears down.

➔ Check tyre pressure.
➔ Switch off suction blower.
➔ Drive sweeper on to a smooth, even surface covered with a visible layer of dust or chalk.
➔ Set the programme switch to sweep with roller brush.
➔ Set programme selection switch to "Transport drive".
➔ Drive machine backwards.
➔ Check sweeping mirror.



The sweeping track should have an even rectangular shape which is 80-85 mm wide.

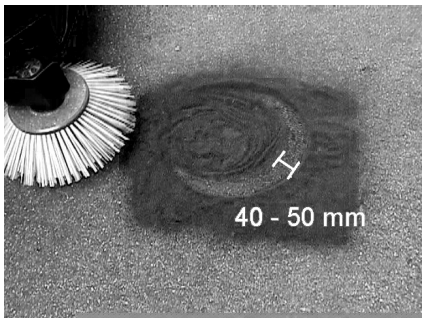


1 Rating nut
2 Counter-nut

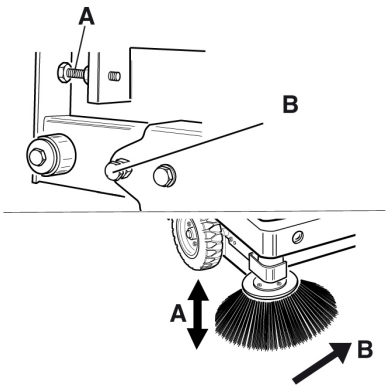
➔ Open the side engine panel.
➔ Loosen counter-nut.
➔ Adjust sweeping track
➔ Tighten counter nut.
➔ Check the sweeping track of the sweeping roller.

Check and adjust sweeping track of the side-brush

➔ Check tyre pressure.
➔ The side-brushes lift up.
➔ Drive sweeper on to a smooth, even surface covered with a visible layer of dust or chalk.
➔ Set the programme switch to sweep with roller brush and side brush.
➔ The side-brushes lift up.
➔ Set programme selection to "Drive".
➔ Drive machine backwards.
➔ Check sweeping mirror.



The width of the sweeping track should lie between 40-50 mm.



➔ Set the sweeping track using the two adjusting screws.
➔ Check sweeping mirror.

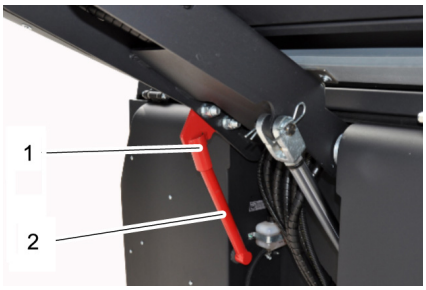
Adjust the side seals

➔ Check tyre pressure.
➔ Drive the waste container up and secure it with the safety rod.

⚠ ***Danger***

Risk of injury! Always apply the safety bar when the waste container is raised.

➔ Fold the safety rod for the high emptying up and insert it into the holder (secured).



1 Holder of safety rod
2 Safety rod

➔ Open the side cover as described in Chapter "Replace brush roller".
➔ Release the 6 wing nuts on the side holding plate.
➔ Loosen 3 nuts (SW 13) on the front holding plate.
➔ Press the side seal down (elongated hole) until it is about 1 to 3 mm to the floor.
➔ Screw in the holding plates.
➔ Repeat the procedure on the other side of the appliance.

Check the tyre pressure

➔ Park the sweeper on an even surface.
➔ Connect air pressure testing device to tyre valve.
➔ Check air pressure and adjust if required.
➔ For permissible tyre air pressures see "Technical data".

Manually clean the dust filter

➔ Clean the dust filter with the filter cleaning button.

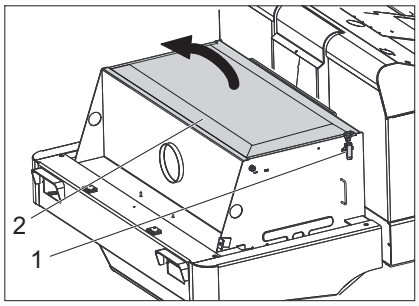
Replacing dust filter

⚠ ***Warning***

Empty waste container before replacing dust filter. Wear a dust mask when working around the dust filter. Observe safety regulations on the handling of fine particulate material.

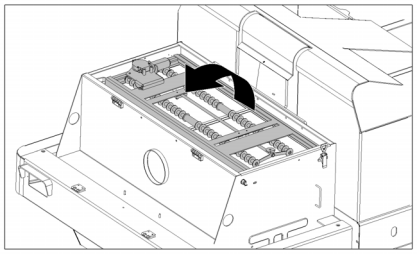
1 Lock of appliance hood
2 Cover

➔ Open the lock, remove the star grip screw to do this.
➔ Fold cover forwards.

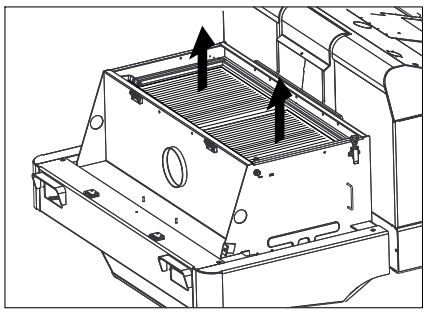


1 Lock
2 Filter cover

➔ Open filter cap.

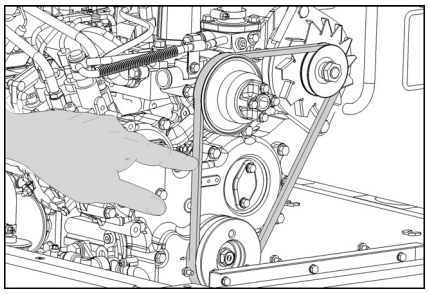


➔ Fold the filter vibrator forward.



➔ Replace the dust filter.
➔ Close the filter cover.

Check and adjust the V-Belt



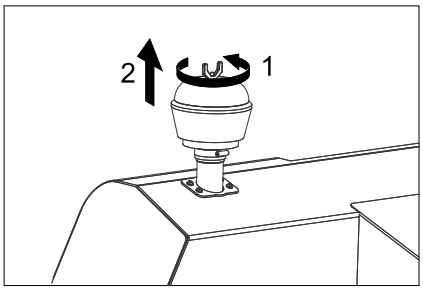
The V-Belt must deflect approx. 7-9 mm at a pressure of 10 kg.

➔ Get the V-belt tension adjusted by an authorized customer service.

Check air filter and replace, if necessary

1 Lock
2 Air filter housing

➔ Open the lock.
➔ Remove the air filter housing.
➔ Replace the air filter insert.
***Note**: Installation position with blowout opening pointing down (see illustration).*



➔ Unscrew the wing nut from the centrifugal separator.
➔ Clean the centrifugal separator.

Changing the headlight bulb (option)

➔ Unscrew the head lamps.

➔ Take out the head lamps and pull out the plug.

Note: Note the positions of the plugs.

➔ Dismantle the head lamps.

➔ Dismantle the head lamp casing and hold it horizontally because the lamp unit is not fastened.

➔ Unlock the bracked and take out the bulb.

➔ Insert new bulb.

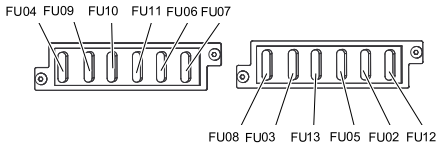
➔ Reinstall in reverse sequence.

Changing the blinker bulb (option)

Note: Remove the glass of the direction-indicator lamp from its casing to replace the bulb.

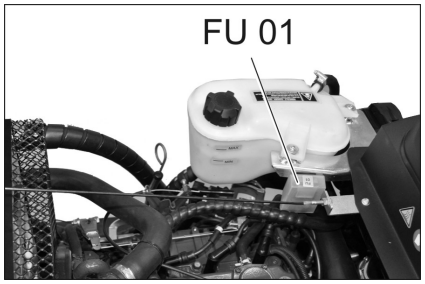
Replacing fuses

➔ Open the fuse holder.



➔ Check the fuses.

Note: The fuse FU 01 is located in the engine compartment.



FU 01	Main fuse	60 A
FU 02	Gas cylinder fill level indicator	5 A
FU 03	Safety relay Multifunction display	10 A
FU 04	Blinker switch	10 A
FU 05	Time relay Seat contact switch	25 A
FU 06	Blower	25 A
FU 07	Program selection switch Waste container functions	10 A
FU 08	Horn	10 A
FU 09	Left lighting	7,5 A
FU 10	Right lighting	7,5 A
FU 11	Front work lights (low beam)	10 A
FU 12	Vibrator system Beacon lamp	20 A
FU 13	Water pump	10 A

➔ Replace defective fuses.

Note: Only use fuses with identical safety ratings.

EC Declaration of Conformity

We hereby declare that the machine described below complies with the relevant basic safety and health requirements of the EU Directives, both in its basic design and construction as well as in the version put into circulation by us. This declaration shall cease to be valid if the machine is modified without our prior approval.

Product: Ride-on vacuum sweeper
Type: 1.186-xxx
Relevant EU Directives
2006/42/EC (+2009/127/EC)
2004/108/EC
2000/14/EC
Applied harmonized standards
EN 60335–1
EN 60335–2–72
EN 55014–2: 1997+A1: 2001+A2: 2008
Applied national standards
CISPR 12
Applied conformity evaluation method
2000/14/EC: Appendix V
Sound power level dB(A)
Measured: 98
Guaranteed: 101

The undersigned act on behalf and under the power of attorney of the company management.

H. Jenner
CEO

S. Reiser
Head of Approbation

Authorised Documentation Representative
S. Reiser

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Phone: +49 7195 14-0
Fax: +49 7195 14-2212

Winnenden, 2013/04/01

Warranty

The warranty terms published by the relevant sales company are applicable in each country. We will repair potential failures of your appliance within the warranty period free of charge, provided that such failure is caused by faulty material or defects in manufacturing. In the event of a warranty claim please contact your dealer or the nearest authorized Customer Service centre. Please submit the proof of purchase.

Troubleshooting

Fault	Remedy
Appliance cannot be started	Sit on the driver seat, the seat contact switch gets activated.
	Charging or replacing battery
	Gas bottle empty - replace gas bottle.
	Gas removal valve closed - open the valve by turning it in anti-clockwise direction.
	Gas valve iced - please read the description of the gas bottle replacement procedure.
	Inform Kärcher Customer Service.
Engine is running erratically	Clean air filter or change filter cartridge.
	Check fuel pipes, connections and joints and maintain them if required
	Inform Kärcher Customer Service.
Engine is overheated	Refill coolant
	Rinse cooler
	Tighten V-Belt
	Inform Kärcher Customer Service.
Engine is running but machine is only moving slowly or is not moving at all	Release parking brake
	Check for trapped ribbons and strings.
	Inform Kärcher Customer Service.
Whistling sound in the hydraulic system	Refill hydraulic fluid
	Inform Kärcher Customer Service.
Brushes are rotating slowly or not at all	Move the gas lever all the way to the front (high speed).
	Check for trapped ribbons and strings.
	Inform Kärcher Customer Service.
Too little or no suction power in the brush area	Clean filter
	Inform Kärcher Customer Service.
Dust gathers in the machine	Adjust the side seals
	Switch on blower
	Clean dust filter
	Replace filter washers
	Inform Kärcher Customer Service.
Sweeping unit does not pick up waste	Empty waste container
	Clean dust filter
	Replacing roller brush
	Adjust sweeping track
	Replace sealing strips of the waste container
	Remove the blocking of the brush roller
	Inform Kärcher Customer Service.
Waste container does not raise or lower	Check the fuses.
	Inform Kärcher Customer Service.
Waste container is rotating slowly or not at all	Inform Kärcher Customer Service.
Operation problems with hydraulic movement parts	Inform Kärcher Customer Service.

Technical specifications

		KM 130/300 R LPG
Machine data		
Drive speed, forward	km/h	10
Drive speed, reverse	km/h	10
Climbing capability (max.)	--	18%
Surface cleaning performance without side brushes	m^2/h	10000
Surface cleaning performance with 1 side brushes	m^2/h	13000
Working width without side brushes	mm	1000
Working width with 1 side brushes	mm	1300
Protection type, drip-proof	--	IPX 3
Usage duration when tank is full	h	4
Engine		
Type	--	Kubota DF 972
Type	--	3-Cylinder 4-stroke gas engine
Cooling type	--	Water cooling
Rotation direction	--	Anticlockwise direction
Holes	mm	74,5
Hub	mm	73,6
Cylinder capacity	cm^3	962
Amount of oil	l	3,7
Operating speed	1/min	2350
Max. speed	1/min	2550
Dry run speed	1/min	1500
Max. power	kW/PS	17,5/23,5
Maximum torque at 2400 rpm	Nm	69
Oil filter	--	Filter cartridge
Suction air filter	--	Internal filter cartridge, external filter cartridge
Fuel type	Liquid gases (propellants): Butane and propane or a mixture of butane/propane	
Tank content	11 kg / 20 litres (replacement cylinder)	
Electrical system		
Battery	V, Ah	12, 62
Generator, rotary current	V, A	12, 80
Starter	--	Electrical starter
Hydraulic system		
Oil quantity in the entire hydraulic system	l	26,5
Oil quantity in hydraulic tank	l	21,2
Oil grades		
Engine (above 25 °C)	--	SAE 30, SAE 10W-30, SAE 15W-40
Engine (0 to 25 °C)	--	SAE 20, SAE 10W-30, SAE 10W-40
Engine (below 0 °C)	--	SAE 10W, SAE 10W-30, SAE 10W-40
Hydraulics	--	HV 46
Waste container		
Max. unloading height	mm	1400
Volume of waste container	l	300
Roller brush		
Roller brush diameter	mm	300
Roller brush width	mm	1000
Speed	1/min	350
Sweeping track	mm	80
Side brushes		
Side brush diameter	mm	600
Speed (continuous)	1/min	0 - 60
Tyres		
Size, front	--	15-4.5x8
Air pressure, front	bar	8
Size, rear	--	15-4.5x8

Brake		
Front wheels	--	mechanical
Rear wheel	--	hydrostatic
Filter and vacuum system		
Type	--	Flat fold filter
Speed	1/min	2800
Filter surface area, fine dust filter	m^2	5,2
Nominal vacuum, suction system	mbar	15,5
Nominal volume flow, suction system	m^3/h	800
Vibrator system	--	Electric motor
Working conditions		
Temperature	°C	-5 and +40
Air humidity, non-condensing	%	0 - 90
Values determined as per EN 60335-2-72		
Noise emission		
Sound pressure level L_{pA}	dB(A)	80
Uncertainty K_{pA}	dB(A)	3
Sound power level L_{WA} + Uncertainty K_{WA}	dB(A)	101
Machine vibrations		
Hand-arm vibration value	m/s^2	1,9
Seat	m/s^2	0,6
Uncertainty K	m/s^2	0,1
Dimensions and weights		
Length x width x height	mm	2040 x 1330 x 1430
Right turning radius	mm	1400
Left turning radius	mm	1400
Unladen weight	kg	900
Permissible overall weight	kg	1480
Permissible front axle load	kg	877
Permissible rear axle load	kg	603
Subject to technical modifications!		

KÄRCHER KM 130/300 R LPG

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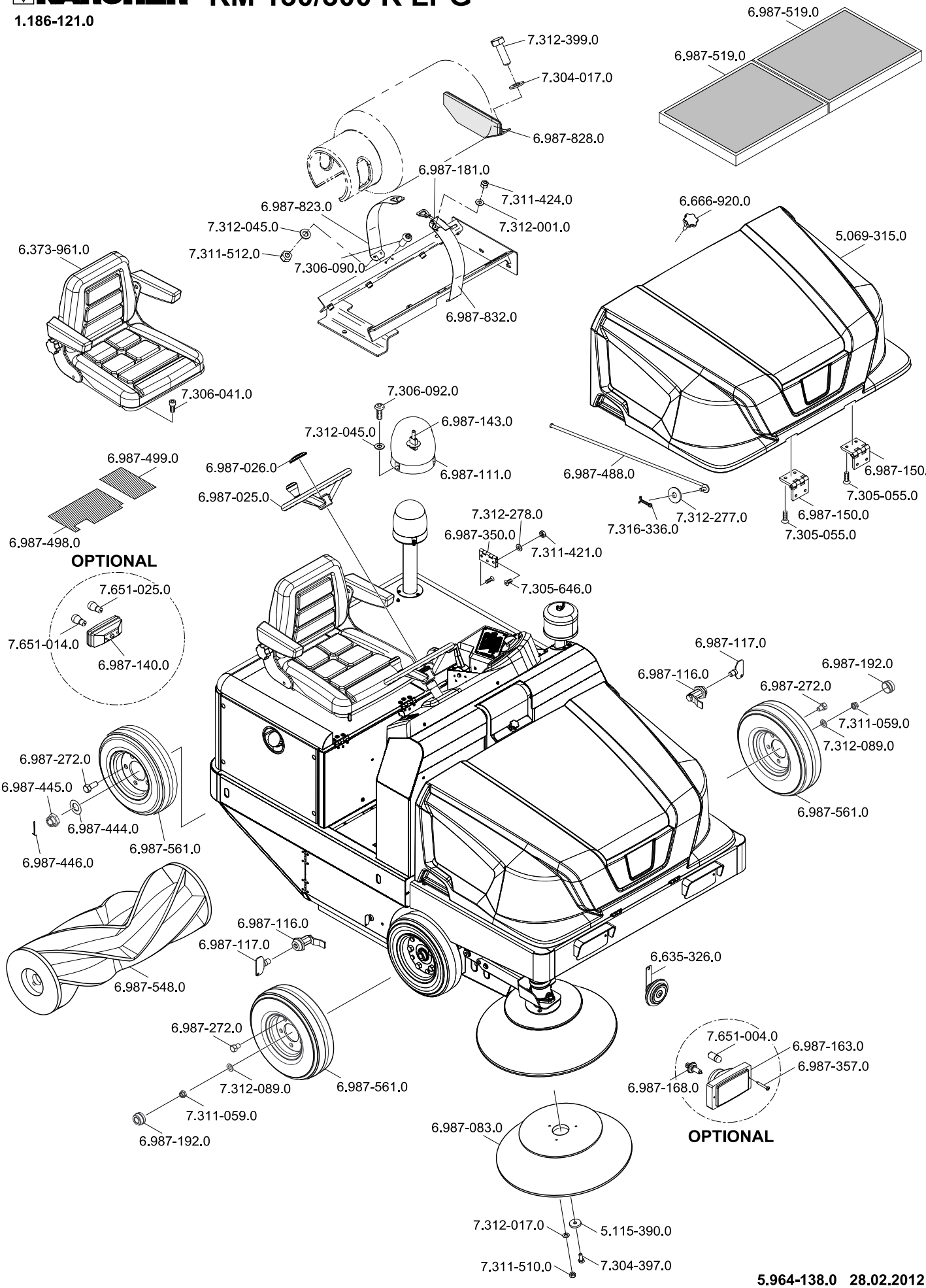

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